

(12) UK Patent Application (19) GB (11) 2 336 178 (13) A

(43) Date of A Publication 13.10.1999

(21) Application No 9807563.3

(22) Date of Filing 09.04.1998

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(51) INT CL⁶
E05B 15/02

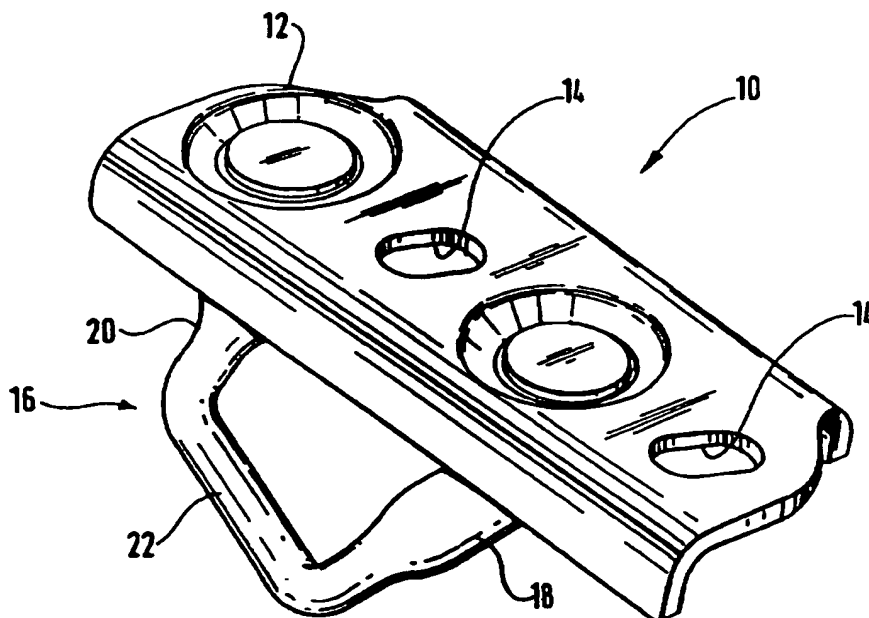
(52) UK CL (Edition Q)
E2A AEB A189 A401

(56) Documents Cited
None

(58) Field of Search
UK CL (Edition Q) E2A AEB
INT CL⁶ E05B 15/02
Online: WPI, EPODOC, JAPIO

(54) Abstract Title
Vehicle door latching striker

(57) A vehicle door latching striker 10 has a pressed sheet metal mounting base 12 and a unitary loop formation 16 formed from metal rod with a pair of limbs 18 and 20 and a median latch bolt engaging portion 22 of substantially smaller cross-sectional area than that of the limbs.

**FIG.2.**

At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

The claims were filed later than the filing date but within the period prescribed by Rule 25(1) of the Patents Rules 1995.

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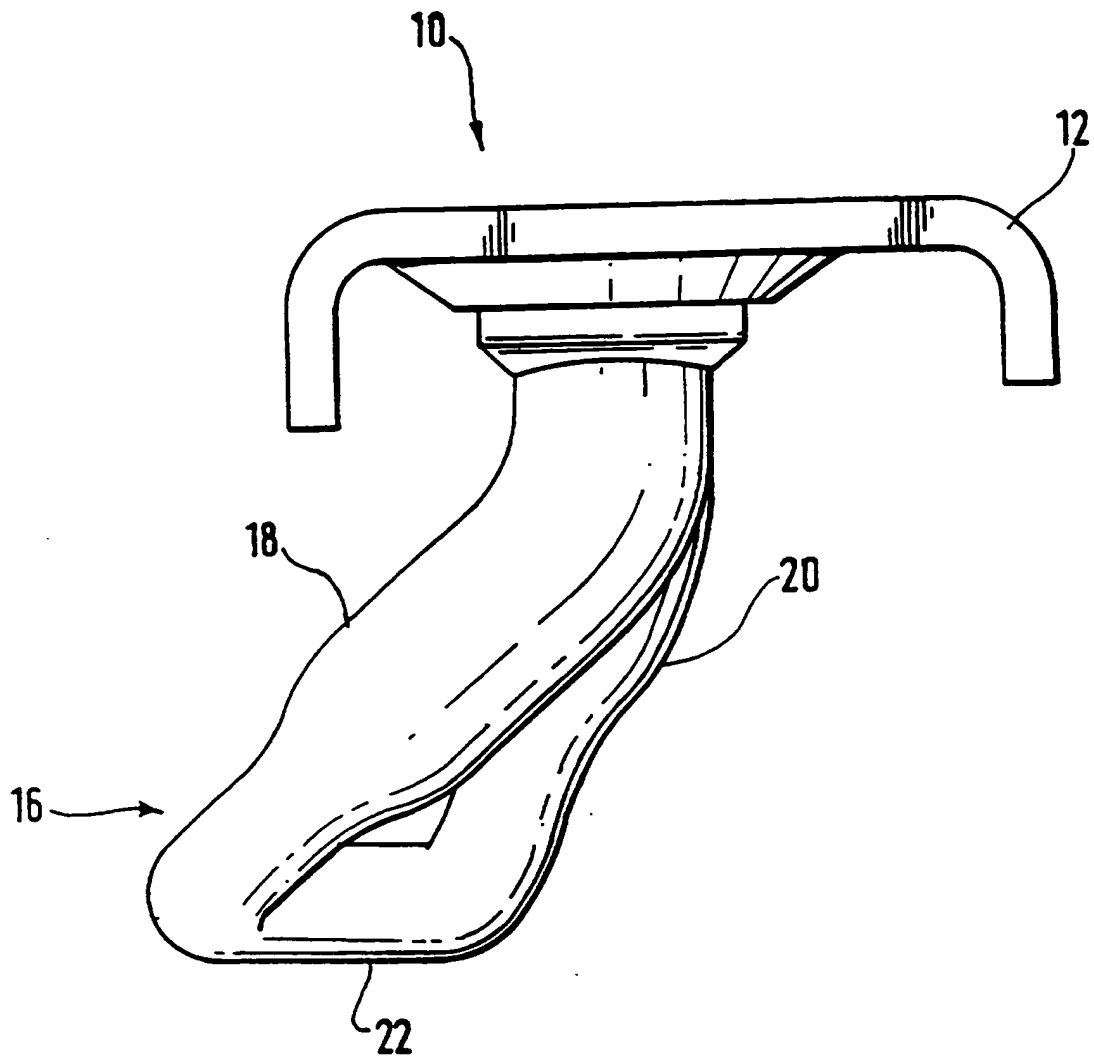


FIG.1.

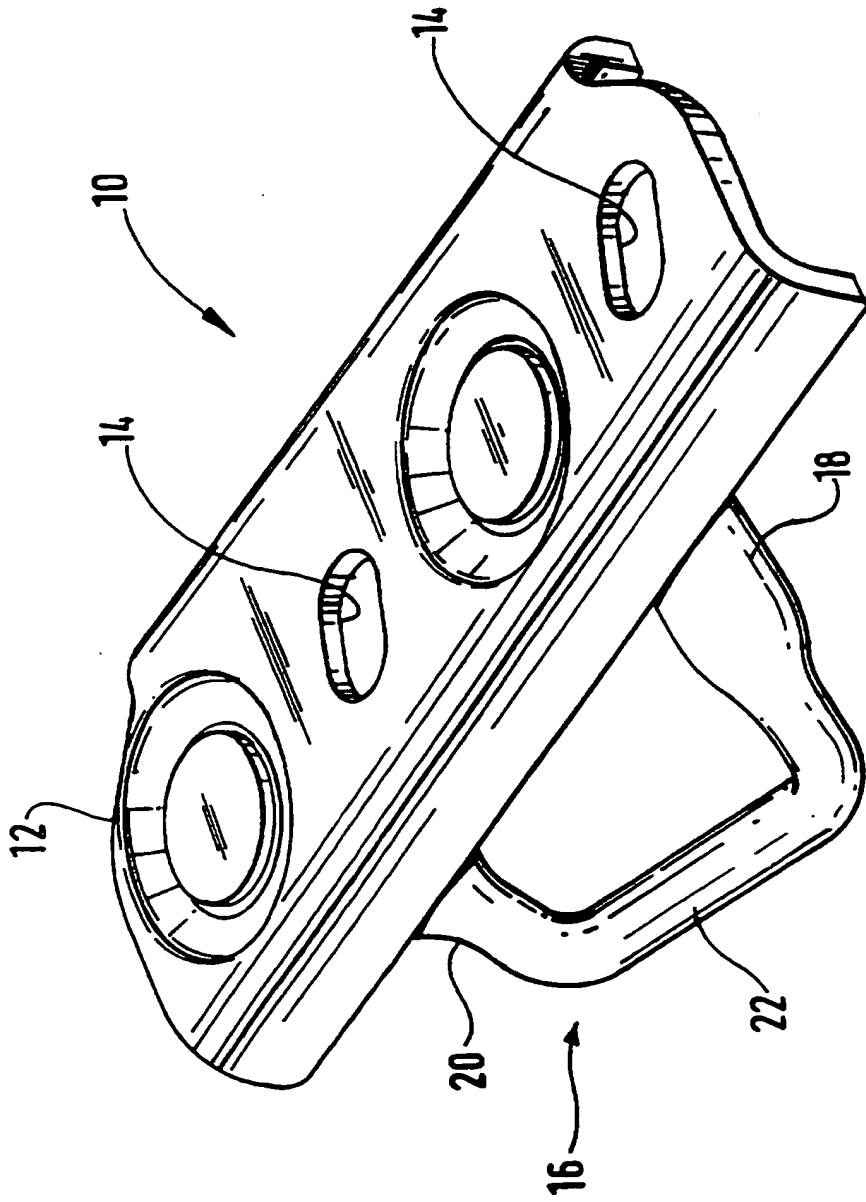


FIG. 2.

VEHICLE DOOR LATCHING STRIKER

This invention relates to vehicle door latching strikers. The term "door" is used herein to comprise not only the driver's or passenger doors of the vehicle but also other body closures such as bonnets or hoods, and/or boot or trunk lids.

Latch mechanism, commonly mounted in or on the door, includes a bolt, commonly a rotating claw which coacts with and engages a striker, usually on the door post or other fixed structure surrounding the door, to self-engage and keep the door closed until the mechanism is released for opening. In some applications, such as a bonnet or hood, the latch mechanism is located on the fixed structure to coact with a striker carried on the door or other closure.

The object of the invention is to provide an improved stronger and more durable striker.

According to the invention there is provided a vehicle door latching striker including a mounting base and a loop formation formed of a single piece of metal rod bent to shape to provide a pair of limbs whose ends are secured to the base and a median latch bolt engaging portion located clear of the base by the limbs, characterised in that at least a major part of each said limb including its said end is of substantially greater cross sectional area than that of the bolt engaging portion.

Typically the rod is of circular cross section throughout its length although it is contemplated that other forms of section, for example oval,

might be used, and, possibly, that the section shape may vary throughout the length, for example the limb major parts might be oval to provide the extra cross section and the bolt engaging portion might be of circular section.

The limbs may be parallel to each other or may have some other angular relationship to each other and to the base and they may be straight or curved or otherwise angled in the longitudinal direction.

An example of the invention is now more particularly described with reference to the accompanying drawings in which:-

Figure 1 is an end elevation of a latching striker and

Figure 2 is a perspective view thereof.

The striker 10 has a pressed sheet metal mounting base 12 provided with fixing holes 14 to secure it in its position of use and a loop formation 16 formed from metal rod, in this example of circular cross section throughout.

Loop formation 16 comprises a pair of limbs 18, 20 whose ends are riveted into spaced locations of base 12. The unitary loop formation also includes a median latch bolt engaging portion 22 in the form of a straight cross-bar lying in a plane parallel to but spaced from plate 12 and merging at each end with a respective limb by a generally right angled bend.

The major part of each limb 18, 20 extending from its riveted connection to base 12 almost to said right angled bend is of substantially greater diameter than that of portion 22 including, in this example, the

connecting bends merging with said major parts.

In the example shown the ratio of the diameters of the thicker limb parts to that of portion 22 is approximately 7:4.

In the example shown said major parts of limbs 18 and 20 are bent to different respective angles so that the longitudinal axis of portion 22 is twisted with respect to the longitudinal median axis of base 12.

The diameter of the bolt engaging portion 22 is sized to coact with a rotating claw type bolt (not shown) of coacting latching mechanism, the size of portion 22 and the bolt being sufficient for reliable and secure latch operation. The use of the increased thickness limb parts gives substantial added strength and durability to the striker for burst resistance in the case of accidental impact to the vehicle, and resistance to flexing and distortion during normal operation, in particular to withstand the quite high forces generated during slam closing of the door.

The use of the invention enables strikers to be provided of more complex shapes, for example as shown in the accompanying drawings, to suit particular applications without loss of strength. In the example shown, if the loop formation 16 had limbs of uniform diameter throughout their length as in conventional striker formation, the overall diameter of the loop would be dictated by the sizing needed to match the claw or other latching bolt and this might not provide sufficient rigidity and strength, particularly where the limbs are bent as in the present example, flexure is likely to take place at the bends, indeed it could cause metal fatigue and eventual failure due to the off centre stressing of the limbs arising from the twisted formation referred to above.

The invention enables the provision of a much stronger striker without dictating that the latch mechanism including the bolt must also be increased in size and, hence, cost, material usage, and need to accommodate the larger mechanism in the door or other associated structure.

The invention enables the use of special purpose strikers with otherwise standard latch mechanisms for special applications such as in vehicle bodies not having traditional B-pillar construction.

CLAIMS:-

1. A vehicle door latching striker including a mounting base and a loop formation, the loop formation being formed of a single piece of metal rod bent to shape to provide a pair of limbs whose ends are secured to the base and a median latch bolt engaging portion located clear of the base by the limbs, characterised in that at least a major part of each limb including its end is of substantially greater cross-sectional area than that of the bolt engaging portion.
2. A vehicle door latching striker as defined in Claim 1 in which the rod includes portions having a circular cross-section.
3. A vehicle door latching striker as defined in Claim 1 or 2 in which the rod includes portions having an oval cross-section.
4. A vehicle door latching striker as defined in Claim 3 in which major portions of at least one limb has an oval cross-section.
5. A vehicle door latching striker as defined in any preceding Claim in which the limbs are parallel.
6. A vehicle door latching striker as defined in any preceding Claim in which the ends of the limbs project substantially perpendicularly from a plane of the base.
7. A vehicle door latching striker as defined in Claim 6 in which at least one limb includes a portion which is bent relative to its end.

8. A vehicle door latching striker as defined in any preceding Claim in which at least one limb is connected to the bolt engaging portion by a bent portion of the rod, the bent portion being of substantially the same cross-section as the bolt engaging portion.
9. A vehicle door latching striker as defined in Claim 8 in which the bent portion is bent at substantially 90°.
10. A vehicle door latching striker as defined in the preceding Claim in which the ratio of the cross-section area of the said major part of the limb to that of the bolt engaging portion is approximately 49:16.
11. A vehicle door latching striker as defined in the preceding Claim in which the ratio of the cross-section area of the limb to that of the bolt engaging portion is greater than 49:16.
12. A vehicle including a passenger door having a latch capable of engaging a vehicle door latching striker as defined in any preceding Claim in which the door latching striker is secured on a door aperture, said aperture not including a roof supporting pillar.



Application No: GB 9807563.3
Claims searched: 1

Examiner: Howard Reeve
Date of search: 12 August 1999

Patents Act 1977
Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.Q): E2A (AEB)

Int Cl (Ed.6): E05B (15/02)

Other: Online: WPI, EPODOC, JAPIO

Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
	NONE	

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.

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